IN THE CLAIMS:

Claims 1-4, 7-10, 15-18, and 19-22 have been amended herein. Claims 23 through 26 were previously withdrawn from consideration. All of the pending claims 1 through 26 are presented below. This listing of claims will replace all prior versions and listings in the application. Please enter these claims as amended.

1. (Currently amended) A method for mitigating sidelobe artifacts in a radiation-patterning tool design process, comprising:

defining elements to be formed in a radiation-patterning tool as a function of a wavelength of radiation to be used to create desired patterns and resultant sidelobes;

calculating a diffraction ring ~~about~~ around each of the elements;

identifying at least one location where one diffraction ring from one of the elements intersects another diffraction ring from another of the elements; and

forming at least one sidelobe inhibitor across the at least one location, the sidelobe inhibitor being located to pass radiation in phase with the radiation passing through the elements.

2. (Currently amended) The method of claim 1 wherein a radius of the diffraction ring is about eight-tenths of the wavelength of radiation, divided by a numerical aperture.

3. (Currently amended) The method of claim 1 wherein the at least one sidelobe inhibitor has side dimensions of about one-half of the wavelength of the radiation.

4. (Currently amended) The method of claim 1 wherein the at least one location comprises a plurality of locations and wherein forming at least one sidelobe inhibitor comprises:

defining an overlap range extending around each of the locations;

defining a common location in lieu of each of the locations when a portion of an ~~overlap range~~overlapping area from one of the locations is common with a portion of an ~~overlap range~~overlapping area from another one of the locations; and

forming the at least one sidelobe ~~inhibitors~~ inhibitor across at least a portion of the plurality of locations ~~and~~ or the common locations.

5. (Previously presented) The method of claim 1 wherein the radiation-patterning tool comprises a reticle.

6. (Original) The method of claim 1 wherein the radiation-patterning tool comprises a photomask.

7. (Currently amended) A method of generating sidelobe inhibitors on a radiation-patterning tool, comprising:

defining elements to be formed in a radiation-patterning tool according to a defined wavelength of radiation intended to pass through the elements to create desired patterns and resultant sidelobes proximate to the desired patterns;

forming a mathematical description of each of the elements including spatial orientations thereof;

defining a mathematical description of a diffraction ring ~~about~~ around the mathematical description of each of the elements;

identifying mathematical descriptions of locations where one mathematical description of a diffraction ring of one of the elements intersects another mathematical description of a diffraction ring of another of the elements; and

forming at least one sidelobe ~~inhibitors~~inhibitor ~~across~~ on the radiation-patterning tool ~~corresponding to~~with one of the at least one sidelobe inhibitor at the at least one of the mathematical descriptions of locations, the at least one sidelobe inhibitor being located to pass radiation in phase with the radiation passing through the elements.

8. (Currently amended) The method of claim 7 wherein each of the mathematical descriptions of diffraction rings extends ~~around~~ at a radius defined from a centroid of the mathematical description of one of the elements.

9. (Currently amended) The method of claim 8 wherein ~~a~~ the radius of each of the mathematical description of diffraction ring is about eight-tenths of the defined wavelength of radiation, divided by a numerical aperture.

10. (Currently amended) The method of claim 7 wherein the sidelobe inhibitors have side dimensions of about one-half the wavelength of the radiation.

11. (Previously presented) The method of claim 7 further comprising:

identifying a proximity of a first one of the sidelobe inhibitors with at least one other of the sidelobe inhibitors; and

when one or more sidelobe inhibitors are identified as more proximate than a predefined threshold with respect to the first one of the sidelobe inhibitors, identifying a common sidelobe inhibitor in lieu of the one or more sidelobe inhibitors.

12. (Previously presented) The method of claim 11 wherein the predefined threshold is about one-half of the defined wavelength of radiation to about one of the defined wavelength of radiation.

13. (Previously presented) The method of claim 7 wherein the radiation-patterning tool comprises a reticle.

14. (Original) The method of claim 7 wherein the radiation-patterning tool comprises a photomask.

15. (Currently amended) A method for designing a mask for illuminating a pattern, comprising:

defining elements to be formed in the mask;

calculating a diffraction ring ~~about~~ around each of the elements, each diffraction ring including a radius coinciding with a location of sidelobes from a wavelength of radiation to create the elements; and

forming a sidelobe inhibitor at ~~at~~ least one intersection where a diffraction ring from one of the elements intersects a diffraction ring from another of the elements, the sidelobe inhibitor being located to pass radiation in phase with the radiation passing through the elements.

16. (Currently amended) The method of claim 15 wherein the at least one intersection comprises a plurality of intersections and further comprising:

defining an overlap range extending around each of the intersections;

defining a common intersection in lieu of each of the intersections when a portion of an ~~overlap range~~overlapping area from one of the intersections is common with a portion of an ~~overlap range~~overlapping area from another one of the intersections; and

forming the sidelobe ~~inhibitors~~ inhibitor across at least a portion of the intersections ~~and~~ or the common intersection.

17. (Currently amended) The method of claim 15 wherein a radius of the diffraction ring is about eight-tenths of the wavelength of radiation, divided by a numerical aperture.

18. (Currently amended) The method of claim 15 wherein the sidelobe inhibitor has side dimensions of about one-half of the wavelength of the radiation.

19. (Currently amended) A computer-readable ~~media~~ medium having computer-executable instructions thereon for determining the placement of sidelobe inhibitors relative to elements to be formed on a radiation-patterning tool, comprising:

calculating a diffraction ring surrounding each of a plurality of elements, the diffraction ring coinciding with an approximate location of a sidelobe corresponding to a wavelength of radiation ~~of the~~ for the radiation-patterning tool;

calculating an intersect of a first diffraction ring with ~~others~~ another of the diffraction rings; and

identifying the intersect as a location to place one of the sidelobe inhibitors, each of the sidelobe inhibitors being located to pass radiation in phase with the radiation passing through the elements.

20. (Currently amended) The computer-readable ~~media~~ medium of claim 19, wherein the identifying the intersect comprises:

identifying ones of intersects wherein placement of one sidelobe inhibiter results in an overlap with another one or more sidelobe inhibitors; and

identifying a common intersect in lieu of intersects resulting in overlap as a location to place one of the sidelobe inhibitors.

21. (Currently amended) The computer-readable ~~media~~ medium of claim 19, wherein the calculating a diffraction ring includes calculating a diffraction ring having a radius of about eight-tenths of the wavelength of radiation, divided by a numerical aperture.

22. (Currently amended) The computer-readable ~~media~~ medium of claim 19, further including forming the sidelobe inhibitors to have side dimensions of about one-half the wavelength of the radiation.

23. (Withdrawn) A mask for exposing a resist-covered wafer in a radiation-patterning process, comprising:

transmissive elements corresponding to features on the wafer to be exposed, the elements formed as a function of a wavelength of radiation to be used for exposing; and

one or more sidelobe inhibitors to suppress sidelobes of the wavelength of radiation, the sidelobe inhibitors arranged from a calculation of intersections of diffraction rings around each of the elements.

24. (Withdrawn) The mask of claim 23 wherein a radius of the diffraction ring is about eight-tenths of the wavelength of radiation.

25. (Withdrawn) The mask of claim 23 wherein the sidelobe inhibitors have dimensions of about one-half of the wavelength of the radiation.

26. (Withdrawn) The mask of claim 23 wherein the one or more sidelobe inhibitors are further arranged to avoid overlap thereof and, when overlap is predicted to occur, two or more overlapping sidelobe inhibitors are merged into a single sidelobe inhibitor arranged central to the overlap of the sidelobe inhibitors.